

## CLAIMS

What is claimed is:

1. A method for managing a message received at a bridging device,  
5 said bridging device for bridging a subnet, said method comprising:

a) receiving a first message, said first message comprising a first  
contact information for a remote electronic device and a first distance vector  
representing a first number of hops said first message has traversed;

b) comparing said first distance vector to a stored second distance  
10 vector corresponding to a stored second contact information for said remote  
electronic device, said second contact information and said second distance  
vector provided by a second message, said second distance vector  
representing a second number of hops said second message has traversed;  
and

15 c) storing a message based on results of said comparing.

2. A method as recited in Claim 1, wherein said step c) further  
comprises:

provided said first number of hops is greater than said second  
20 number of hops, discarding said first message; and

provided said first number of hops is not greater than said second  
number of hops, discarding said second contact information and said

second distance vector and storing said first contact information and said first distance vector.

3. A method as recited in Claim 1 wherein said first message and said second message are address resolution protocol messages.

4. A method as recited in Claim 1 wherein a computer-readable memory of said bridging device is configured for storing said first contact information, said first distance vector, said second contact information and said second distance vector.

5. A method as recited in Claim 1 wherein said bridging device is operating as a standby bridging device.

6. A method as recited in Claim 3 wherein said first distance vector is transmitted in pad bytes of said first message and said second distance vector is transmitted in pad bytes of said second message.

7. A method as recited in Claim 1 wherein said first message is received from a remote bridging device, wherein upon forwarding said first message, said remote bridging device increments said first number of hops by one.

8. A method as recited in Claim 3 wherein said first distance vector comprises:

a checksum for determining the validity of said first distance vector;

an identifier for identifying said first distance vector; and

5 a value representing said first number of hops.

9. A method as recited at Claim 3 wherein said address resolution protocol messages are standard Ethernet address resolution protocol messages.

10. A method as recited at Claim 3 wherein said address resolution protocol messages are 802.1q address resolution protocol messages.

11. An bridging device comprising:

15 a bus;

an interface coupled to said bus for receiving an external message from a second electronic device;

a computer-readable memory coupled to said bus; and

a processor coupled to said bus, said processor for executing a method  
20 for managing messages received at said bridging device, said method comprising:

a) receiving a first message, said first message comprising a first contact information for a remote electronic device and a first distance vector representing a first number of hops said first message has traversed;

b) comparing said first distance vector to a stored second distance vector corresponding to a stored second contact information for said remote electronic device, said second contact information and said second distance vector provided by a second message, said second distance vector representing a second number of hops said second message has traversed; and

c) storing a message based on results of said comparing.

12. An bridging device as recited in Claim 11, wherein said step c) further comprises:

provided said first number of hops is greater than said second number of hops, discarding said first message; and

provided said first number of hops is not greater than said second number of hops, discarding said second contact information and said second distance vector and storing said first contact information and said first distance vector.

13. An bridging device as recited in Claim 11 wherein said first message and said second message are address resolution protocol messages.

14. An bridging device as recited in Claim 11 wherein said computer-readable memory is configured for storing said first contact information, said first distance vector, said second contact information and said second distance  
5 vector

15. An bridging device as recited in Claim 11 wherein said bridging device is operating as a standby bridging device.

16. An bridging device as recited in Claim 13 wherein said first  
10 distance vector is transmitted in pad bytes of said first message and said second distance vector is transmitted in pad bytes of said second message.

17. An bridging device as recited in Claim 11 wherein said first  
15 message is received from a remote bridging device, wherein upon forwarding said first message, said remote bridging device increments said first number of hops by one.

18. An bridging device as recited in Claim 13 wherein said first  
20 distance vector comprises:

- a checksum for determining the validity of said first distance vector;
- an identifier for identifying said first distance vector; and
- a value representing said first number of hops.

19. An bridging device as recited at Claim 13 wherein said address resolution protocol messages are standard Ethernet address resolution protocol messages.

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20. An bridging device as recited at Claim 13 wherein said address resolution protocol messages are 802.1q address resolution protocol messages.

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21. A computer-readable medium having computer-readable program code embodied therein for causing a computer system to perform a method for managing messages received at a bridging device, said method comprising:

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a) receiving a first message, said first message comprising a first contact information for a remote electronic device and a first distance vector representing a first number of hops said first message has traversed;

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b) comparing said first distance vector to a stored second distance vector corresponding to a stored second contact information for said remote electronic device, said second contact information and said second distance vector provided by a second message, said second distance vector representing a second number of hops said second message has traversed; and

c) storing a message based on results of said comparing.

22. A computer-readable medium as recited in Claim 21, wherein said step c) further comprises:

provided said first number of hops is greater than said second number of hops, discarding said first message; and

provided said first number of hops is not greater than said second number of hops, discarding said second contact information and said second distance vector and storing said first contact information and said first distance vector.

23. A computer-readable medium as recited in Claim 21 wherein said first message and said second message are address resolution protocol messages.

24. A computer-readable medium as recited in Claim 21 wherein a computer-readable memory of said bridging device is configured for storing said first contact information, said first distance vector, said second contact information and said second distance vector.

25. A computer-readable medium as recited in Claim 21 wherein said bridging device is operating as a standby bridging device.

26. A computer-readable medium as recited in Claim 23 wherein said first distance vector is transmitted in pad bytes of said first message and said second distance vector is transmitted in pad bytes of said second message.

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27. A computer-readable medium as recited in Claim 21 wherein said first message is received from a remote bridging device, wherein upon forwarding said first message, said remote bridging device increments said first number of hops by one.

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28. A computer-readable medium as recited in Claim 23 wherein said first distance vector comprises:

a checksum for determining the validity of said first distance vector;

an identifier for identifying said first distance vector; and

a value representing said first number of hops.

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29. A computer-readable medium as recited at Claim 23 wherein said address resolution protocol messages are standard Ethernet address resolution protocol messages.

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30. A computer-readable medium as recited at Claim 23 wherein said address resolution protocol messages are 802.1q address resolution protocol messages.